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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/545,888	04/07/2000	Akira Koyama	F-10110	2164

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MCGINN & GIBB, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/545,888

Applicant(s)

KOYAMA, AKIRA

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/22/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Amendment A, filed 10/22/2003, with respect to the rejection(s) of claim(s) 1-9 under Akatsu et al (USPN 6,496,862) have been fully considered and are persuasive. Specifically, Examiner agrees that Akatsu does not suggest an extension node which stores telephone numbers. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shima et al (USPN 6,456,714).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shima et al (USPN 6,456,714) in view of Akatsu et al (USPN 6,496,862).

4. Regarding claim 1, Shima discloses a network switching system wherein stream data transferred on a serial bus are exchanged through a gateway between an outside line and an extension node, or between a first extension node and a second extension node (col. 2, lines 8-38), wherein at least one said extension node comprises: a control/memory unit for storing physical identifiers and telephone numbers of said gateway node and extension nodes and for controlling said network (col. 5, lines 1-20; col. 5, lines 54-67; and col. 7, lines 4-35), where the use of a telephone number as a destination address (col. 5, lines 54-67) and the ability of a

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peripheral device to only contact consumer devices capable of receiving voice signals (col. 5, lines 10-20) suggests that the control/memory unit stores the physical identifiers and telephone numbers of the gateway node and extension nodes and where the peripheral unit, as broadly defined, can be viewed as an extension node; an asynchronous interface, for selecting said extension node, connected with said control/memory unit (col. 5, lines 10-20); a rate conversion unit for converting a data rate of said stream data in said network into that in said outside line, or for converting a data rate of stream data in said outside line into that of said network switching system (col. 4, lines 30-42; col. 5, lines 1-20; and col. 6, line 37-col. 7, line 35); and an isochronous interface, for transmitting and receiving said stream data, connected with said rate conversion unit (col. 5, lines 36-40). Shima does not disclose that the asynchronous interface controls a switching timing; however, Shima does disclose that control signals are sent over the asynchronous interface (col. 5, lines 1-20). Akatsu teaches, in an IEEE 1394 system, that controlling a switching timing is part of the IEEE 1394 protocol (col. 2, line 40-col. 3, line 13 and col. 5, line 4-col. 6, line 31). It would have been obvious to one of ordinary skill in the art at the time of the invention to control the switching timing over the asynchronous interface since controlling switching timing is part of the IEEE 1394 protocol.

5. Regarding claim 2, referring to claim 1, Shima in view of Akatsu suggests that at least one said extension node further comprises: a microphone for inputting said stream data; a speaker for outputting said stream data; and a codec, for encoding and decoding said stream data, connected with said microphone, said speaker and said rate conversion unit for encoding and decoding said stream data (Shima: col. 5, lines 1-20 and col. 5, lines 54-67 and Akatsu: col. 3,

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lines 1-6) where Examiner takes official notice that codecs are very well known in the art as a means for performing analog to digital conversion on signals.

6. Regarding claim 3, referring to claim 1, Shima in view of Akatsu discloses that at least one said extension node further comprises: a stream data take-in unit, for storing said stream data, connected with said rate conversion unit (col. 4, lines 30-42; col. 5, lines 1-20; and col. 6, line 37-col. 7, line 35); and a stream data processing unit, for processing said stream data, connected with said stream data take-in unit (col. 5, lines 1-27) where “processing” is a broad term which includes determining if an extension node is capable of receiving the stream.

7. Regarding claim 4, referring to claim 1, Shima in view of Akatsu disclose that the asynchronous interface and said isochronous interface are connected with a bus manager which controls said asynchronous interface, said isochronous interface, said control/memory unit, and said rate conversion unit (Shima: col. 4, lines 30-42; col. 5, lines 1-20; and col. 6, line 37-col. 7, line 35 and Akatsu: col. 2, line 40-col. 3, line 13 and col. 5, line 4-col. 6, line 31, esp. col. 6, lines 16-31).

8. Regarding claim 5, Shima discloses a gateway, comprising: a first switching unit for controlling extension nodes connected with a serial bus for isochronous transfer; and a second switching unit for exchanging stream data between an outside line and said extension nodes (col. 2, lines 8-38 and col. 3, line 10-col. 4, line 56), wherein: said second switching unit comprises a line manager (micro-controller) and a control/memory unit, said line manager exchanges said stream data between said outside line and at least one of said extension nodes according to a request from the first switching unit said first switching unit manages a call-in to said extension node and a call-out from said extension node, and said at least one extension node is uniquely

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identified by a telephone number (col. 3, line 10-col. 4, line 56; col. 5, lines 1-27; and col. 5, lines 54-67). Shima does not expressly disclose said first switching unit comprises a bus manager connected with an asynchronous interface and an isochronous interface or that the second switching unit comprises a line manager connected with a codec. Akatsu teaches, in an IEEE 1394 system, that the IEEE 1394 protocol includes provisions for a bus manager connected with an asynchronous interface and an isochronous interface (col. 2, line 40-col. 3, line 13 and col. 5, line 4-col. 6, line 31, esp. col. 6, lines 16-31). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the first switching unit comprise a bus manager connected with an asynchronous interface and an isochronous interface since bus managers are part of the IEEE 1394 protocol. Akatsu also teaches that all communications on IEEE 1394 are digital (col. 3, lines 1-6). Examiner takes official notice that codecs are well known in the art as a way to perform analog to digital conversion. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the line manager be connected with a codec in order to ensure that all signals transmitted on the IEEE 1394 bus are digital.

9. Regarding claim 6, Shima discloses information terminals, comprising: a telephone for transmitting and receiving a telephone signal through a serial bus (col. 5, line 1-col. 6, line 5) and a digital monitor or other digital equipment (col. 3, line 62-col. 4, line 3). Shima does not expressly disclose a television (TV) set for receiving a TV signal through said serial bus or a bus manager for controlling said serial bus, wherein said bus manager comprises two pairs of an asynchronous interface and an isochronous interface for said telephone signal and said TV signal, respectively. Akatsu teaches, in an IEEE 1394 network, that a terminal may be a television (TV) set for receiving a TV signal through said serial bus (Figs 5 and 6 and col. 6,

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lines 33-col. 7, line 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a terminal be a television (TV) set for receiving a TV signal through said serial bus in order to allow a user to watch television. Akatsu also teaches that having a bus manager is a part of the IEEE 1394 protocol (col. 2, line 40-col. 3, line 13 and col. 5, line 4-col. 6, line 31, esp. col. 6, lines 16-31). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have a bus manager for controlling said serial bus since this is part of the IEEE 1394 protocol. Shima in view of Akatsu does not expressly disclose that a single terminal houses a telephone, a television, and a bus manager; however, it is obvious to make separate elements integral, see In re Lockhart, 90 USPQ 214 (CCPA 1951) and Howard v. Detroit Stove Works, 150 U.S. 164 (1893). In this case, such a combination results in increased functionality in a single terminal. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to combine a telephone, a TV, and a bus manager in a single terminal in order to have increased functionality in a single terminal. By housing these elements in a single terminal, it would have been obvious to one of ordinary skill in the art at the time of the invention that the bus manager should comprise two pairs of an asynchronous interface and an isochronous interface for said telephone signal and said TV signal, respectively in order to allow the telephone and the television to operate simultaneously in the single terminal unit.

10. Regarding claim 7, Shima discloses a gateway comprising: a telephone gateway (col. 5, line 1-col. 6, line 5); a data gateway (col. 6, line 20-col. 7, line 49), wherein: said telephone gateway transfers a telephone signal from a public switched telephone network to a serial bus (col. 5, line 1-col. 6, line 5), and transfers a telephone signal from said serial bus to said public switched telephone network (col. 5, line 1-col. 6, line 5); said data gateway receives a data signal

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from a data line (col. 6, line 20-col. 7, line 49), and transfers said data signal to said serial bus (col. 6, line 20-col. 7, line 49). Although not expressly disclosed, it is implicit that Shima comprises two pairs of an asynchronous interface and an isochronous interface for transferring said telephone signal and said data signal, respectively (col. 5, line 1-col. 6, line 5 and col. 6, line 20-col. 7, line 49) such that the gateway is able to communicate a data signal and a telephone signal simultaneously. Shima does not expressly disclose that said telephone gateway having a capacity to interconnect to at least one telephone terminal via said serial bus, wherein the interconnect is controlled by a telephone number identification of each of said at least one telephone terminal; however Shima suggests this. Shima discloses that when calling out, a call request includes, as a destination address, a telephone number of the destination (col. 5, lines 54-67). Shima also discloses that when a call is received, the peripheral device can direct the call only to selected devices (col. 5, lines 1-20). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the first extension node and the second extension node be uniquely identified by a telephone number in order to allow a call to be directed to a specific extension node. Examiner takes official notice that it is well known in the art to interconnect devices on a network. Shima does not expressly disclose a TV gateway; and a bus manager connected to said telephone gateway and said TV gateway, wherein: the TV gateway transfers said TV signal to said bus manager; and said bus manager comprises two pairs of an asynchronous interface and an isochronous interface for transferring said telephone signal and said TV signal, respectively. Akatsu teaches, in an IEEE 1394 network, that a terminal may be a television (TV) set for receiving a TV signal through said serial bus (Figs 5 and 6 and col. 6, lines 33-col. 7, line 10). It would have been obvious to one of ordinary skill in the art at the time

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of the invention to have a TV gateway in order to allow television signals to be transported across the bus. Akatsu also teaches that having a bus manager is a part of the IEEE 1394 protocol (col. 2, line 40-col. 3, line 13 and col. 5, line 4-col. 6, line 31, esp. col. 6, lines 16-31). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have a bus manager for controlling said serial bus since this is part of the IEEE 1394 protocol. Thus Shima in view of Akatsu suggests that the TV gateway transfers said TV signal to said bus manager; and said bus manager comprises two pairs of an asynchronous interface and an isochronous interface for transferring said telephone signal and said TV signal, respectively.

11. Regarding claim 10, referring to claim 1, Shima in view of Akatsu suggests that each of said first extension node and said second extension node is uniquely identified by a telephone number (Shima: col. 5, lines 1-20 and col. 5, lines 54-67). Shima in view of Akatsu discloses that when calling out, a call request includes, as a destination address, a telephone number of the destination (Shima: col. 5, lines 54-67). Shima in view of Akatsu also discloses that when a call is received, the peripheral device can direct the call only to selected devices (Shima: col. 5, lines 1-20). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the first extension node and the second extension node be uniquely identified by a telephone number in order to allow a call to be directed to a specific extension node.

12. Regarding claim 11, referring to claim 1, Shima in view of Akatsu discloses that the serial bus comprises an IEEE 1394 data bus (Shima: col. 4, lines 20-29 and col. 4, lines 57-67 and Akatsu: col. 2, line 40-col. 3, line 13 and col. 5, line 4-col. 6, line 31).

13. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shima et al (USPN 6,456,714) in view of Ho (USPN 4,747,130).

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14. Regarding claim 8, Shima discloses a call-in signal processing method for a network switching system using asynchronous and isochronous transfer modes (col. 5, line 4-col. 6, line 31), wherein stream data transferred on a serial bus are exchanged through a gateway between an outside line and an extension node (col. 5, line 4-col. 6, line 31), or between a first extension node and a second extension node (col. 5, line 4-col. 6, line 31), said method comprising: calling one or more extension nodes (col. 5, line 4-col. 6, line 31); securing one or more isochronous channels on the basis of responses from said extension nodes (col. 5, line 4-col. 6, line 31); allowing said extension nodes to start exchanging said stream data (col. 5, line 4-col. 6, line 31). Shima does not expressly disclose selecting, at said gateway, which of an automatic transfer by a number display, a global call-in, or a manual call-in on the basis of setup data. Examiner takes official notice that it is well known in the art to have a unicast connection (manual call-in), a multicast connection (global call-in or conference call), and caller ID (number display). It would have been obvious to one of ordinary skill in the art at the time of the invention to select at the gateway which of an automatic transfer by number display, a global call-in, or a manual call-in on the basis of setup data in order to select the correct number of terminals for which the connection is destined and in order to determine the number of connections needed to complete the call. Shima also does not disclose sending simultaneously a call status of a station of which call status is changed to all the extension nodes connected with said serial bus. Ho teaches, in a telecommunication system, using a common data communication facility connected to all modules (analogous to a bus) to broadcast resource availability to all modules (col. 3, lines 20-25 and col. 3, lines 63) in order to allow resource searching to occur within each module individually (col. 3, lines 58-63). It would have been obvious to one of ordinary skill in the art at

the time of the invention to send simultaneously call status of a station of which call status is changed to all extension nodes connected with the serial bus in order to allow each node to be able to determine the availability of bandwidth individually.

15. Regarding claim 9, Shima discloses a call-out signal processing method for a network switching system using asynchronous and isochronous transfer modes (col. 5, line 4-col. 6, line 31), wherein stream data transferred on a serial bus is exchanged through a gateway between an outside line and an extension node (col. 5, line 4-col. 6, line 31), or between a first extension node and a second extension node (col. 5, line 4-col. 6, line 31), said method comprising: receiving at said gateway a call-out from an extension node (col. 5, line 4-col. 6, line 31); confirming, at said gateway, a call status of call object (col. 5, line 4-col. 6, line 31); securing an isochronous channel for transmission (col. 5, line 4-col. 6, line 31); securing an isochronous channel for reception (col. 5, line 4-col. 6, line 31); allowing said call object to start exchanging said stream data, when said call object has responded, while sending, to said extension node which carried out said call-out, a call status that indicates that said call object does not respond, when said call object has not responded (col. 5, line 4-col. 6, line 31); releasing said isochronous channels for transmission and reception, when detecting an on-hook of said extension node which has made said call-out (col. 5, line 4-col. 6, line 31). Shima does not disclose sending said call status to all the extension nodes connected to said gateway. Ho teaches, in a telecommunication system, using a common data communication facility connected to all modules (analogous to a bus) to broadcast resource availability to all modules (col. 3, lines 20-25 and col. 3, lines 63) in order to allow resource searching to occur within each module individually (col. 3, lines 58-63). It would have been obvious to one of ordinary skill in the art at

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the time of the invention to send call status of a station of which call status is changed to all extension nodes connected with the gateway in order to allow each node to be able to determine the availability of bandwidth individually.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Humpleman (USPN 5,940,387) see entire document which relates to a bus system which allows for telephone communications. Edens et al (USPN 6,611,537) see entire document which relates to a bus system which allows for synchronous and asynchronous communication including telephone service.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703)308-6743.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman
Examiner
Art Unit 2665

DTL

Daniel J. Ryman



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600